

## CLAIMS

1. A beam, column or member of a structure whose transversal section is hollow, being fabricated from elemental elongated members comprising only two elongated members with respective "C" type open cross sections, joined to each other by means of the respective joining means.

2. The beam, column or member of claim 1, wherein said "C" type transversal sections have rounded bends and/or stiffened edges and/or stiffened cores.

3. The beam, column or member of claim 1, wherein said "C" type transversal sections can have diverse dimensions which, when combined between each other, originate a wide variety of beams, columns or members of a structure.

4. The beam, column or member of claim 1, wherein said joining means comprise intermittent welds applied in or near at least one of the edges of said elongated members.

5. The beam, column or member of claim 1, wherein said beam, column or structural member has a varying thickness, due to the fact that the elongated members have different thickness.

6. The beam, column or member of claim 1, wherein each of said elongated members that form the beam, column or member of a structure are long, being formed by several open cross section elongated members that are joined one next to the other; and all the elongated members that form the beam are arranged in a mismatched manner, by

ensuring that all their joints do not coincide in a common transversal section of said beam, column or member of a structure.

7. The beam, column or member of claim 1, wherein each of said elongated members can be made of diverse materials, such as steel and other metals, plastic, glass  
5 and composite materials, such as fiber cement and fiber-glass reinforced plastics.

8. The beam, column or member of claim 1, wherein said joint means can correspond to a fusion weld based on electric arc, resistor or thermo-fusion; rivets, screws or bolts; or joints made by assembly, bonding by adhesives and other adequate joint means.

10 9. The beam, column or member of claim 1, wherein the joint between elongated members is completed throughout their full extension or is supplemented by a seal, with the object of isolating the interior of the beam, column or member from the outside, in order to prevent the corrosion, entry of rodents, liquids or other undesirable elements.

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10. A structural element comprising:  
two elongated members having respective "C" type open cross-sections;  
and  
joining means for joining the two elongated members to form a hollow  
20 transversal section.

11. The structural element of claim 10, wherein the two elongated members have rounded bends.

12. The structural element of claim 10, wherein the two elongated members  
5 have stiffened edges.

13. The structural element of claim 10, wherein the two elongated members have stiffened cores.

10 14. The structural element of claim 10, wherein the two elongated members have unequal dimensions.

15 15. The structural element of claim 10, wherein the joining means comprises at least one intermittent weld applied to an edge of the elongated members.

16. The structural element of claim 10, wherein a thickness of at least one of the elongated members varies along a length thereof, causing a thickness of the structural element to vary along a length thereof.

20 17. The structural element of claim 10, further comprising:  
a first and second open cross-section elongated members joined end-to-end to form a first end joint; and

a third and fourth open cross-section elongated members joined end to end to form a second end joint;

wherein:

the first and second elongated members are joined to the third and fourth elongated members; and

the first end joint and the second end joint do not meet.

18. The structural element of claim 10, wherein at least one of the elongated members is composed of a member of the group consisting of metals, plastic, glass, and composite materials.

19. The structural element of claim 10, wherein the joining means includes a member of the group consisting of fusion welds, rivets, screws, bolts, joints made by assembly, and bonding adhesives.

20. The structural element of claim 10, further comprising a seal between two elongated members.

21. A method for manufacturing a structural element, comprising:  
providing two elongated members having respective "C" type open cross sections; and  
joining the two elongated members to form a hollow transversal section.